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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,153	09/30/2003	Glen H. Handlogten	ROC920030061US1	6418
30206	7590	03/11/2010	EXAMINER	
IBM CORPORATION ROCHESTER IP LAW DEPT. 917 3605 HIGHWAY 52 NORTH ROCHESTER, MN 55901-7829			BARON, HENRY	
			ART UNIT	PAPER NUMBER
			2462	
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			03/11/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

rociplaw@us.ibm.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/676,153	<b>Applicant(s)</b> HANDLOGTEN ET AL.	
	<b>Examiner</b> HENRY BARON	<b>Art Unit</b> 2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-10 and 12-21 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

***Detailed Action***

***Hierarchical scheduling***

***Response to Arguments/Remarks***

1. Claims 1, 2 – 10, and 12 – 21 are pending in this application. Claims 1, 5, 6, and 7 are amended.
2. Examiner withdraws the 35 USC § 101 rejection of claims 1 and 3 – 9 in view of Applicant's amendment,
3. Applicant's arguments filed 12/216/2009 have been fully considered but are not convincing
4. Applicants argues that limitations of claim 1 are not disclosed or suggested by a combination of Hassan-Ali I and Eberle as these references do not discloses a hierarchical scheduler architecture for use with an access node terminal disposed in an access network portion. Applicant argues that while Eberle discloses a system where resources are reserved for a particular time period in response to pre-scheduling requests. However, the combination of Hassan-Ali I and Eberle fails to disclose or suggest, for example, "transmitting, from the network processor, data from the winning pipe flow using a bandwidth corresponding to the *winning pipe flow*" (emphasis added). Applicant contests Examiner reliance on the teaching of Eberle, as the reference discloses a system that relies on a pre- calculated schedule where a source node sends a request to a scheduler to periodically reserve a switch slot so that there is sufficient bandwidth for an isochronous data stream that will later be sent and does not disclose that this process involves any competition, selection, comparison, or the like, that amounts to the isochronous data stream being a winning data stream. Eberle, Applicant argues, discloses that a request is received and a resource reservation is entered.
5. Examiner replies that Hassan-Ali teaches of a L2 data structure accordingly that contains "winner FID/TS" i.e. that is a process that involves competition, selection, comparison, or the like.

***Claim Rejections - 35 USC § 103***

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 3– 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hassan-Ali et al (U.S. Patent Application Publication 2004/0081167), hereafter Hassan-Ali in view of Eberle (U.S. Patent 7020161)

8. Regarding claim 1, Hassan-Ali teaches a network processor and method of hierarchical scheduling comprised of receiving data from one or more pipes; (Figure 12 element 1202 FID 8: [0058] read present invention first maps the [PHY, VPI, VCI] triplet to a unique number, called Flow ID (FID), which allows efficient storage and data structure representation.) selecting a winning pipe from the pipes from which to transmit data based upon quality of service parameters corresponding to the winning pipe; (Figure 12 element 1218-n [0071] read the L2 data structure accordingly contains "winner FID/TS" data from different subports.) selecting a pipe flow from the plurality of pipe flows included in the winning pipe based upon one or more quality of service parameters corresponding to the selected pipe flow; and transmitting data from the selected pipe flow using a bandwidth corresponding to the winning pipe flow. (Figure 12 element 1222 [0072] read the arbitration block 1220 is provided as a CoS-aware, TS-based Priority Round Robin (PRR) mechanism that is operable to select a winner FID 1222 based on service category as well as the time stamp data. Thus, the arbiter 1220 not only determines whether a cell with higher service priority is ready to be serviced in the current time slot i.e. using a bandwidth corresponding to the winning pipe flow, but it also attempts to send a cell having the lowest time stamp as compared to a global time variable).

9. However, Hassan-Ali does not teach of transmitting data from the selected pipe flow using a bandwidth corresponding to the pipe flow.

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10. Eberle teaches of transmitting data from the selected pipe flow using a bandwidth corresponding to the pipe flow. (5: [002] read [a] precalculated schedule can accommodate isochronous traffic e.g. winning pipe flow, by allocating the necessary connection between an input and output port at intervals derived from the rate of the isochronous data stream. That way, an appropriate amount of switch bandwidth i.e. bandwidth corresponding to pipe flow can be reserved. The claim limitation fails to set forth any functional or structural limitations that would preclude the Examiner's interpretation. .)

11. It would have been obvious at the time the invention was made by a person of to having ordinary skill in the art to modify the hierarchical scheduling teachings of Hassan-Ali to transmitting data from the selected pipe flow using a bandwidth corresponding to the winning pipe flow.

12. Using a bandwidth more then that corresponding to the winning pipe flow would waste bandwidth resources while using a bandwidth corresponding less then that corresponding to the winning pipe flow would be inefficient.

13. Regarding claim 3, Hassan-Ali teaches of selecting a winning pipe from the one or more pipes from which to transmit data based upon one or more quality of service parameters corresponding to the winning pipe includes writing data identifying a pipe to a memory address in a group of memory addresses based upon one or more quality of service parameters corresponding to the pipe and scanning the group of memory addresses to find data identifying a pipe. (7: [0061] read queue manager 812 provides the FIDs stored in a connection memory 814 to a subport scheduler 822 which performs hierarchical scheduling, detailed below, so as to manage traffic shaping and flow routing to elect most eligible connections to send the cells across the fabric.) .

14. In consideration of claims 4, Hassan-Ali teaches of rewriting data identifying the winning pipe to a memory address in a group of memory addresses based upon one or more quality of service parameters corresponding to the winning pipe. (7: [0061] read A scheduler RAM 823 inserts FIDs i.e. winning pipe in the subport scheduler's priority queues i.e. memory address, based on such parametrics as the cell's theoretical arrival time (TAT) i.e. quality of service parameter).

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15. In consideration of claims 5 – 6, Hassan-Ali teaches of writing data identifying a pipe flow to a memory address in a group of memory addresses based upon one or more quality of service parameters corresponding to the pipe flow; scanning the group of memory addresses to find data identifying a pipe flow; writing the identified pipe flow in a queue corresponding to the winning pipe based upon one or more quality of service parameters corresponding to the selected pipe flow; and selecting the identified pipe flow from the queue corresponding to the winning pipe. (7: [0061] read queue manager 812 provides the FIDs stored in a connection memory 814 to a subport scheduler 822 which performs hierarchical scheduling, detailed below, so as to manage traffic shaping and flow routing to elect most eligible connections to send the cells across the fabric. 7: [0061] read A scheduler RAM 823 inserts FIDs i.e. winning pipe in the subport scheduler's priority queues i.e. memory address, based on such parametrics as the cell's theoretical arrival time (TAT) i.e. quality of service parameter)

### *Allowance*

15 Examiner finds claims 7 – 10 and 12 – 21 are allowable for reasons previously cited.

### *FINAL ACTION*

16 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

17 A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory

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action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

18 Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY BARON whose telephone number is (571)270-1748. The examiner can normally be reached on 7:30 AM to 5:00 PM E.S.T. Monday to Friday.

19 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. B./  
Examiner, Art Unit 2462

**HB**

/Kevin C. Harper/

Primary Examiner, Art Unit 2462